ATTORNEY DOCKET NO. 25006.0016U2 **APPLICATION NO.** 10/669,162 SHEET 1 OF 11

Information Disclosure **Statement List**

	Complete if Known
Application Number	10/669,162
Filing Date	September 22, 2003
First Named Inventor	Breaker et al.
Confirmation No:	4368
Cus-i- sa Nama	Hannainead

	(1100.00	(an an annual and an annual and		FILE	i Nameo inventor	L Due	aker et ai.		
	(Use as many sheets as necessary)			Con	firmation No:	430	38		
			Exa	miner Name	Un	assigned			
	:		•	U.S. PA	TENT	DOCUMENTS		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Examiner's Initials	Cite No.	Document No.		Date		Name	Class	Subclass	Filing Date (if appropriate
0-3/	A1	6,831,171	12/0		Brea	ker et al.			
ÜΨ	A2	6,001,411	12/1	4/99	Bren	nan et al.			
	A3	5,861,288	01/1	9/99	Usm	an et al.			
	A4	5,854,038	12/2	9/98	Sulle	enger et al.			
	A5	5,834,186	11/10	0/98	Shaj	i et al.			
	A6	5,807,718	09/1	5/98	Usm	an et al.			
	A7	5,624,803	4/29/	97	·Noo	nberg et al.		1	
	A8	5,334,711	08/0	2/94		at et al.			
1	A9	2004-0072783	04/1	5/04	Brea	ker et al.			
		· 一种的一种。 图 · · · · · · · · · · · · · · · · · ·	FC	REIGN	PATE	NT DOCUMENT	S		
xaminer's nitials	Cite No.	Foreign Patent Dock Country Code-Number-Kin	ıment	Dat		Nam			ranslation Yes/No
12	-A10	WO 99/54459		10/28/9	99	Thompson et a	1.		
00	A11	WO 99/16871		04/08/9		Max Planck Ge		haft	
	A12	WO 98/43993		10/08/9		Breaker			
	A13	WO 97/26270		07/24/9		Wincott et al.			
	A14	WO 96/19836		06/20/9		Biegelman et a	ĺ.		
	A15	WO 96/10390		04/11/9		Ansell et al			
····	A16	WO 96/10391		04/11/9		Choi et al.			
	A17	WO 96/10392		04/11/9		Holland et al			
	A18	WO 96/10395		04/11/9		Holland et al.			
	A19	WO 95/11910		05/04/9		Dudzycz et al.			
	A20	WO 95/06731		03/09/9		Usman et al.			
	A21	WO 94/02595		02/03/9		Sullivan et al.			
	A22	WO 93/23569		11/25/9		Draper et al.			
	A23	WO 93/15187		08/05/9		Usman et al.	•	<u> </u>	
	A24	WO 92/07065		04/03/9		Eckstein et al.			
1/	A25	WO 91/03162		03/21/9		Rossi et al.			
1	A26	WO 89/02439		03/23/8		Arnold et al.			
11.00	10.50						and.	100	
xaminer's nitials	Cite No.					Author, Title, Publisher, Re			Character of a contract of the
J 2	A27	Agrawal et al., "A	ntisen	se oligor	nucled	tides:toward clin	ical tri	als" TIBTE	CH 1996. 14:376-380
0,0	A28	Auger, et al., "Th controlled by tran	e metl scripti	C operor on antite	n invo ermina	lved in methionin tion." Microbiolo	e bios gy 20	ynthesis in 02 Feb;148	n Bacillus subtilis is 3:507-518
	A29		RNA-	binding a	attenu	ation protein (TR			metabolism in Bacillus and RNA structure." J

Examiner Signature:	Date Considered:
	12/18/06
EXAMINER: Initial if reference considered, whether or no	t citation is in conformance with MPEP 609; Draw line through citation if not in

				Complete if Known
		Dia ala acces	Application Number	10/669,162
l in	torma	ation Disclosure	Filing Date	September 22, 2003
	Sta	tement List	First Named Inventor	Breaker et al.
		many sheets as necessary)		
	•	•	Confirmation No:	4368
			Examiner Name	Unassigned
\cap	A30	Bartel and Szostak "Isolation of	new ribozymes from a l	arge pool of random sequences"
143		Science 261:1411-1418 (1993)		· · · · · · · · · · · · · · · · · · ·
UY	A31	Beaucage and Leyer, "The fund Tetrahedron 49:1925-1963 (199		leotides via phosphramidite derivatives"
	A32			uirements for catalytic activity of a self-
	100	splicing group I intron," Biochen	nistry 29:6534-5639 (199	90)
 	A33			me" Science 257:635-641 (1992)
	A34	catalytic RNA design," Biochem	istry 31:11843-11852 (1	
	A35		II of a hammerhead ribo	Phosphoramidite & the incorporation of ozyme," Bioorganiz & Medicinal
	A36			d ribozymes" J. Biol. Chem. 270:25702-
	A37	Bellon et al. "Amino-linked riboz	ymes: post-synthetic co	njugation of half-ribozyme," Nucleasides
		& Nucleotides 16:951-954 (199		
	A38	phase synthesis," Bioconjugate	d Chem. 8:204-212 (199	ernative approach to iterative solid
	A39	Benner et al., "Modern metaboli A. 1989 Sep;86(18):7054-7058		ne RNA world." Proc Natl Acad Sci U S
	A40		e molecules containing	non-nucleoside linkers are active RRNA
	A41		cation of mutants constit	tutive for aspartokinase III synthesis in 60.
	A42		sense and peptide nucle	ic acid strategies for controlling gene
	A43	Braasch, Biochemistry 2002 Ap		
	A44			nds Biochem. Sci 1998 Feb; 23(2):45-50
	A45	Breaker "Catalytic DNA: in train (1999)	ing and seeking employ	ment " Nature Biotech. 17:422-423
	A46	Breaker "Engineered Allosteric (2002) 13:31-39		r Components." Curr. Opin. Biotechnol,
	A47		and improving ribozyme	function : rational design versus iterative
	A48	Breaker and joyce" a DNA enzy		hem. Bio 1:223-229 (1994)
	A49			NA phosphoresterase activity" Chem
	A50	Breaker et al. "In vitro selection Scientific Press, Intracellular Ril wymonham, GB (1999)	bozyme Applications: Pr	es and deoxyribozymes. <u>Horizon</u> inciples and Protocols, chap. 1 pp. 1-19
,	A51	Breaker, " Are engineered prote Biotechnology 7:442-448 (1996		rom RNA?" Current Opinion in
	A52			" Chem Rev. 1997 Apr 1;97(2):371-390

	A51	Biotechnology 7:442-448	(1996)	on from RNA? Carrent Opinion in	
W	A52	Breaker, "In Vitro Selection	on of Catalytic Polynucleotic	des." Chem Rev. 1997 Apr 1;97(2):371-390	
Examiner	Signatu	ire:	Date Considered:	12-18-06	
		al i reference considered, whether considered. Include copy of this f		with MPEP 609; Draw line through citation if not in pplicant.	•

				Complete if Known
Information Disclosure		Application Number	10/669,162	
111			Filing Date	September 22, 2003
	Sta	itement List	First Named Inventor	Breaker et al.
	(Use as	many sheets as necessary)	Confirmation No:	4368
1			Examiner Name	Unassigned
	1.50	T		
03	A53	combinatorial sold phase organ	ic synthesis." Biotech. B	
00	A54			siological temperatures: activation
				antitative analysis of the perturbation of
1				phate reductase from Lactobacillus
	A55	leichmannii." J. Inorg. Biochem.		syl-13-epicobalamin, a coenzymatically
	1,700	active structural analog of coen		
	A56			nes with improved catalytic rates"
		Biochemistry 35:14090-14097 (,
	A57	Cadwell and Joyce "Mutagenic	PCR" PCR Methods App	ol. 3(6):S136-140 (1994)
	A58			otides and deoxyoligonucelotide
ļ		analogs" Methods Enzymol. 211		
	A59		xpression and function o	of antisense catalytic RNAs," Methods
 	A60	Enzymol. 313:401-20, 2000	Current Opinion in Struct	h Bi-
\vdash	A61	Cech, "Ribozyme engineering" (Cech, "Ribozymes and their me		
	A62			orts catalytic activity in the hammerhead
	1,102	ribozyme domain." Nucleic Acid		
	A63			p to nine highly conserved HIV-1 env
	1	RNA regions inhibits HIV-1 repla		
L	.	sequenced HIV-1 isolates," Nuc		
	A64			tution yields highly actie and nuclease-
	A65	resistant hairpin ribozymes," Nu		erhead, hairpin and hepatitis delta virus
	703	self-processing ribozyme cassel		
	A66			otilis: characterization of the xpt-pbuX
				expression of genes involved in
		xanthine salvage and catabolism		
	A67	Christoffersen and Marr, "Ribozy 2037 (1995)	ymes as human therape	utic agents" J. Med. Chem 38:2023-
	A68	Cload and Schepartz," Polyethe 113:6324-6326 (1991)		·
	A69	Couture and Stinchcomb, "anti-c Trends in Genetics 12:510-515		ribozymes to prohibit gene function."
	A70			A ligase activity" Nature 375:611-614
	A71	Desai et al, "Genetic screens an		olecules based on a synthetic m Soc. 126:13247-13254 (2004)
	A72		formational changes and	d dynamics of tRNAs: evidence from
11	A73			zyme: intracellular suppression of
٠,١	<u> </u>	human immunodeficiency virus t		
Examiner	Signator	re: D	ate Considered:	Dec 12 -12 -06

2 and 3 and 3	700 12-17-06
EXAMINER: Initial treference considered, whether or no conformance and not considered. Include copy of this form v	t citation is in conformance with MPEP 609; Draw line through citation if not in ith next communication to applicant.

				Complete if Known
Inf	orms	ition Disclosure	Application Number	10/669,162
"""			Filing Date	September 22, 2003
		tement List	First Named Inventor	Breaker et al.
ĺ	(Use as r	many sheets as necessary)	Confirmation No:	4368
•			Examiner Name	Unassigned
	A74	Durand et al. "Circular dichrosin	n studies of an oligodeox	xyribonucleotide containing a hairpin lop
93				stability," Nucleic Acids. Res. 18:6353-
0.0	A75	nine enzymes for de novo purin 15;262(17):8274-87	e nucleotide synthesis."	
	A76	bacteriophage T7 RNA polymer (1990)	ase in mammalian cells	based on constitutive synthesis of Proc. Natl. Acad. Sci. 87:6743-6747
	A77	Life Sci. 59:596-607		ctivities and New Applications" Cell. Mol.
	A78	Acad Sci U S A. 2003 Apr 29;10	00(9):5052-5056	ur metabolism in bacteria." Proc Natl
	A79	1999 Jun;9(3):324-329	-	all molecules." Curr Opin Struct Biol.
	A80	Biochemistry 31:12042-12054 (1992_	ge by hammerhead ribozymes, "
·	A81	(1991)		ides" J. Am. Chem. Soc. 113:4000-4002
	A82	model for the active sites," Cell	49:211-220 (1987)	RNAs of a virusoid and a structural
	A83	Freier et al. "improved free-ene Natl . Acad. Sci 83:9373-9377 (ictions of RNA duplex stability" Proc.
	A84	2872 (1993)	equence with cationic lip	osomes" Nucleic Acids. Res. 21:2867-
	A85	riboflavin synthesis genes" Tren	ids Gen. 15, 439-442 (19	
	A86	1996. Proc Natl Acad. Sci. 93:3	161-3163	ping antisenes delvier on its promist"
	A87	cleaving DNA enxyme" Chem, E	Biol. 4:579-593 (1997)	ndence of an RNA phosphodiester
	A88			Rev. Biochem. 64:763-797(1995)
	A89	(1997)	•	man nuclei" Gene Therapy 4:45-54
	A90	Nov 15;16(22):2829-2842.	_	mall RNA switches." Genes Dev. 2002
	A91	for methionine and cysteine bios Nov;30(4):737-749	synthesis genes in gram	anscription termination control system -positive bacteria." Mol Microbiol. 1998
	A92			tion in vitro: codon-anticodon pairing 3. 2002 Aug 20;99(17):11121-11126

Examiner Signature:	Date Considered: 1 2 - 1 7 - 0 6
EXAMINER: Initialif reference considered, whether or no conformance and not considered. Include copy of this form v	t citation is in conformance with MPEP 609; Draw line through citation if not in with next communication to applicant.

				Complete if Known
1 1 1 1	~ rm-	tion Disclosure	Application Number	10/669,162
1131			Filing Date	September 22, 2003
	Sta	tement List	First Named Inventor	Breaker et al.
	(Use as r	nany sheets as necessary)	Confirmation No:	4368
	-		Examiner Name	Unassigned
93	A93	from Neurospora VS RNA" EME	3O J. 14:368-376 (1995)	
0,0	A94	Apr;3(4):495-504		cription termination." Mol Cell. 1999
	A95	Hammann et al "Length variation cleavage activity" Antisence and		head ribozyme and its influence on . 9:25-31 (1999)
	A96	Hannon, "RNA interference." Na		
	A97			ecule interactions" RNA:452-463 (2002)
	A98	instructions for transcription terr Aug;24(8):700-707	mination/antitermination	· · · · · · · · · · · · · · · · · · ·
	A99	153.		Curr Opin Microbiol. 2000 Apr;3(2):149-
	A100	Henkin, "tRNA-directed transcrip		
	A101	and G12 in the hammerhead rib	ozyme: biochimica et bio	aration of the conserved nucleotides A9 ophysica acta 1219:405-412 (1994)
	A102	(2000)		cid aptamers." Science 287, 820-825
	A103			Jucleic Acids. Red. 20:3252 (1992)
	A104	Biol. 2002 Dec;9(12):891-893		gms of genetic regulation." Nat Struct
	A105	Hunziker et al. "Nulceic Acid and methods," VCH, 331-417, 1995	alogues: synthesis and p	properties, in Modern synthetic
	A106			odistribution of poly(ethylene glycol) ether," Chem. Pharm. Bull. 43:1005-
	A107	Izant and Weintraub, "constitutive genes by anti-sense RNA," Scie	ve and conditional supprince 229:345-352 (1985)	ession of expgenosou and endogenous
	A108	Jadhav and Yarus "Coenzymes		
	A109	Jarmer, et al., "Transcriptome and during nitrogen limiting condition		ed competence of Bacillus subtilis 2002 Jan 10;206(2):197-200
	A110	Jaschke et al., "Automated incor Tetrahedron Letters 34:301-304	rporation of polyethylene (1993)	glycol into synthetic oligonucleotides,"
	A111	Jeffares et al., "Relics from the F	RNA world." J Mol Evol.	1998 Jan;46(1):18-36
I ₁	A112	Jefferies and Symons, "A cataly	tic 13-mer ribozyme," Nu	ucleic Acids Res. 17:1371-1377 (1989)
	A113			gulon comprising the pur and xpt-pbuX acteriol. 2003 Sep;185(17):5200-5209
	A114		n of an anti-HIV hairpin r	ibozyme by in vitro selection," J. Blol.
	A115			alytic RNA," Gene 82:83-87 (1989)
	A116	Joyce et al. "Directed molecular	evolution," Scientific Am	nerican 267:90-97 (1992)
\bigvee	A117	Kashani-Sabet et al. "Reversal on Research & Development 2:3-15		pe by an anti-ras ribozyme," Antisense
Examiner	Signator	e: D	ate Considered:	

3 ~	12-17-06
EXAMINER: Initial if reference considered, whether or no	t citation is in conformance with MPEP 609; Draw line through citation if not in
conformance and not bensidered. Include copy of this form w	ith next communication to applicant.

Information Disclosure Statement List (Use as many sheets as necessary) Complete if Known Application Number 10/669,162 Filling Date September 22, 20 First Named Inventor Breaker et al. Confirmation No: 4368 Examiner Name Unassigned	03
Statement List (Use as many sheets as necessary) Filing Date September 22, 20 First Named Inventor Breaker et al. Confirmation No: 4368	03
(Use as many sheets as necessary) Confirmation No: 4368	
Confirmation No: 4368	
Examiner Name Unassigned	
A118 Kil et al., "Riboflavin operon of Bacillus subtilis: unusual symmetric arrange	ment of the
regulatory region." Mol Gen Genet. 1992 Jun;233(3):483-486	
A119 Kochhar et al., "Lysine-induced premature transcription termination in the ly	sC operon of
Bacillus subtilis." Microbiology. 1996 Jul;142 (Pt 7):1635-1639 A120 Kreneva, et al., "Study of the phenotypic occurrence of ura gene inactivation."	n in Pacillus subtilis"
Genetika. 2000 Aug;36(8):1166-1168 Russian (no translation)	ii iii baciiius subtilis
A121 Kumar and Ellington, "Artificial evolution and natural ribozymes," FASEB J.	9:1183-1195
A122 L'Huillier et al. "Cytoplasmic Devliery of Ribozymes leads to efficient reduct	ion in alpha-
latalbumin mRNA levels in C1271 mouse" EMBO J. 11:4411-4418 (1992)	
A123 Landick et al., "Quantitative analysis of transcriptional pausing by Escherich polymerase: his leader pause site as paradigm." Methods Enzymol. 1996;2	
A124 Lasic and Needham, "The stealth liposome: a protypical biomaterial," Chem	
(1995)	
A125 Lasic and Paphajopoulos, "Liposomes revisited," Science 267:1275-1276 (1995)
A126 Lauhon and Szostak, "RNA aptamers that bind flavin and nicotinamide redo Chem Soc. 1995 Feb 1;117(4):1246-1257	ox cofactors." J Am
A127 Lee et al., "RNA expression analysis using an antisense Bacillus subtilis ge Bacteriol. 2001 Dec;183(24):7371-7380	· · ·
A128 Leontis and Westhof, "A common motif organizes the structure of multi-helix 23 S ribosomal RNAs." J Mol Biol. 1998 Oct 30;283(3):571-583.	
A129 Li and Breaker "Deoxyribozymes:new players I the ancient game of biocata Struct. Bio. 9:315-323 (1999)	• •
A130 Li and Breaker "In vitro Selection of Kinase and Ligase Deoxyribozymes." N 23:179-190	
A131 Li and Breaker, "Kinetics of RNA degradation by specific base catalysts of t involving the 2'-hydroxyl group," J. Am. Chem. Soc. 121:5364-5372 (1999)	ranseserification
A132 Li and Sen " A catalytic DNa for porphyrin metallation" Nat. Strut. Biol. 3:74	
A133 Liao and Hseu," Analysis of the regulatory region of the lysC gene of Esche Microbiol Lett. 1998 Nov 1;168(1):31-36	
A134 Lieber et al. "Stabl high level gene expression in mammalian cells by T7 ph polymerase" Methods Enzymol. 217:47-66 (1993)	age RNA
A135 Limbach et al., "Summary: the modified nucleosides of RNA," Nucleic Acids 2196 (1994)	Res. 22(12):2183-
A136 Lisziewicz et al., "Inhibition of human immunodeficiency virus type 1 replicated expression of a polymeric tat activation response RNA decoy as a strategy AIDS," Proc. Natl. Acad. Sci. 90:8000-8004 (1993)	
A137 Liu et al., "Cationic liposome mediated intravenous gene delivery" J. Biol. C 270(42):24864-24870 (1995)	
A138 Long and Uhlenback, "Kinetic characterization of intramolecular and intermolecular a	
A139 Lu et al., "Fine-structure mapping of cis-acting control sites in the lysC operation subtilis." FEMS Microbiol Lett. 1992 Apr 1;71(1):23-27	

Examiner Signature:	Date Considered:	
730	12-17-06	
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in		
conformance and notice/sidered Include copy of this form with next communication to applicant.		

				Complete if Known
Information Disclosure Statement List		Application Number	10/669,162	
		Filing Date	September 22, 2003	
		First Named Inventor	Breaker et al.	
	(Use as r	many sheets as necessary)	Confirmation No:	4368
			Examiner Name	Unassigned
$\overline{}$	A140	Lu et al., "Identification of aecA	mutations in Bacillus su	btilis as nucleotide substitutions in the
() 2				n." J Gen Microbiol. 1991 May;137(Pt
712	1	5):1135-1143		
70	A141			in Escherichia coli btuR mutants affects
	1.110	btuB gene regulation." J. Bacter		
)	A142	Lundrigan et al., "Transcribed se	equences of the Escheri	chia coli btuB gene control its
	A143	expression and regulation by vit	amin B ₁₂ " Proc. Nati. At	cad. USA 88:1479-1483 (1991)
	A143	Ma et al "Design and synthesis Biochemistry 32:1751-1758 (19		a synthetic linker approach,
 	A144	Ma et al. "Design and synthesis		a synthetic linker approach 2
				HIV-1 TAR RNA analogs with high tat-
		binding affinity," Nucleic Acids Res. 21:2585-2589 (1993)		
	A145	Mäder, et al., "Transcriptome and proteome analysis of Bacillus subtilis gene expression		
		modulated by amino acid availability." J Bacteriol. 2002 Aug;184(15):4288-4295		
	A146	Mandal, et al, "Riboswitches control fundamental biochemical pathways in Bacillus subtilis and		
	0117	other bacteria." Cell. 2003 May 30;113(5):577-586		
	A147	Manoharan "2'-carbohydrate modifications in antisense oligonucleotide therapy: importance of		
	A148	conformation, configuration and conjunction." Biochem Biophys. Acta 1489(1):117-130 (1999) Mansilla, et al., "Transcriptional control of the sulfur-regulated cysH operon, containing genes		
		involved in L-cysteine biosynthesis in Bacillus subtilis." J Bacteriol. 2000 Oct;182(20):5885-5892		
	A149	Mathews et al., "Expanded sequence dependence of thermodynamic parameters improves		
		prediction of RNA secondary structure." J. Mol. Biol. 288, 911-940 (1999))		
	A150	Matthews and Nichols, "Lactose repressor protein: functional properties and structure." Prog		
	A151	Nucleic Acid Res Mol Biol. 1998;58:127-164 McCall et al. "Minimal sequence requirements for ribozyme activity" Proc. Natl Acad. Sci.		
	^131	89:5710-5714 (1992)	requirements for fibozy	The activity Froc. Ivali Acad. Sci.
	A152	McConnell et al., "Guanosine binding to the Tetrahymena ribozyme: thermodynamic coupling		
		with oligonucleotide binding." Proc Natl Acad Sci U S A. 1993 Sep 15;90(18):8362-8366		
	A153	McCurdy et al. "Deoxyoligonucleotides with inverted polarity: synthesis and use in triple-heliz		
	4454	formation." Nucleoside & Nucleo	otides 10:287-290 (1991)
	A154	McGarry and Linquist, "Inhibition of heat shock protein synthesis by heat-inducible antisense		
	A155	RNA," Proc. Natl. Acad. Sci. 83:399-403 (1986) Mesmaeker et al, "Novelbackbone replacements for oligonucleotises" Am. Chem. Soc. 24-39		
	7133	(1994)	ne replacements for ong	onucleotises Am. Chem. Soc. 24-39
	A156		of group II intron into a	new multiple turnover ribozyme that
		selectively cleaves olgonucletide	es: elucidation of reactio	n mechanism and structure/function
		relationships" Biochemistry 34:3		
	A157	Milligan and Uhlenbeck, "Synthe Enzymol. 180:51-62 (1989)	esis of small RNA s using	g T7 RNA polymerase" Methods
	A158			() is involved in regulation of thiamin
· /				ad. Sci. USA 98, 9736-9741 (2001)
V	A159	Mironov et al., "Functional organ subtilis SHgw." Mol Gen Genet.		piosynthesis operon from Bacillus 8
			· · · · · · · · · · · · · · · · · · ·	

Examiner Signature:	Date Considered:	
1	12-17-06	
EXAMINER: Initial if reference considered, whether or no	t citation is in conformance with MPEP 609; Draw line through citation if not in	
conformance and not considered. Include copy of this form with next communication to applicant.		

				Complete if Known
Information Disclosure Statement List		Application Number	10/669,162	
		Filing Date	September 22, 2003	
		First Named Inventor	Breaker et al.	
	(Use as many sheets as necessary)		Confirmation No:	4368
		•	Examiner Name	Unassigned
	A160	Mironov et al "Sensing small m	nolecules by nascent RN	IA: a mechanism to control transcription
103	/	in bacteria." Cell. 2002 Nov 27;		A. a medianism to control transcription
100	A161			NA: the 2'-hydroxyl groups at the splice
		sites" Science 256:992-996 (1992)		
	A234	Moszer et al., "SubList: the reference database for Bascillus subtilis gene" Nucleic Acids Research 2002, 30, 62-		
	A162	Murphy McDaniel, et al., "Transcription termination control of the S box system: direct measurement of S-adenosylmethionine by the leader RNA." Proc Natl Acad Sci U S A. 2003 Mar 18;100(6):3083-3088		
	A163	Murphy, et al., "Prediction of gene function in methylthioadenosine recycling from regulatory signals." J Bacteriol. 2002 Apr;184(8):2314-2318		
	A205			lation by protein kinase C in human
· \	- = = =	Nakamura et al "High-affinity taurine uptake and its regulation by protein kinase C in human glioma cells." Adv Exp Med Biol. 1996;403:377-84.		
	A164			nalysis and restructuring of DNA
ļ		molecules," Ann. Rev. Biochem. 44:273-293 (1975)		
	A165	Noonberg. Et al. "In vivo generation of high abundant sequence-specific oligonucletides for		
	A166	antisense and triplex gene regulation" Nulceic Acids Res. 22(14):2830-2836 (1994) Nou & Kadner, "Adenosylcobalamin inhibits ribosome binding to btuB RNA." Proc. Natl. Acad.		
	/ 1100	Sci. USA 97:7190-7195 (2000)		
	A167	Nudler and. Gottesman, "Transcription termination and anti-termination in E. coli. genes."		
	A168	Cells. 2002 Aug;7(8):755-768		
		Nudler et al. "The riboswitch control of bacterial metabolism" Trends in Biochem Sci. 29(1):11- 17 (2004)		
	A169	Ohkawa et al. "Activities of HIV-RNA targeted ribozymes transcribed from a shot gun type ribozyme trimming plasmid" Nucleic Acids Symp. Ser. 27:15-16 (1992)		
·	A170	Ojwang et al. "Inhibition of human immunodeficiency virus type 1 expression by hairpin		
 	A171	ribozyme" Proc. Natl Acad. Sci. 89:10802-10806 (1992) Oku et al. "Real-time analysis of liposomal trafficking in tumor-bearing mice by use of positron		
	` ` ` `	emission tomography" Biochimica et Biophysica Acta. 1238:86-90 (1995)		
	·A172			
	•	octamer segments that have opposite sugar-phosphase backbone polarities" Biochemistry 30:9914-9921 (1992)		
	A173		roc. R. Soc. London B.	205:435-442 (1979)
	A174	Orgel et al. "Selection in vitro" Proc. R. Soc. London B. 205:435-442 (1979) Pan et al. "Properties of an in vitro selected Pb2+ Cleavage motif" Biochemistry 33:9561-9564 (1994)		
	A175	Patte, et al., "The leader sequence of the Escherichia coli lysC gene is involved in the regulation of LysC synthesis." FEMS Microbiol Lett. 1998 Dec 1;169(1):165-170		
	A176	Perreault et al. "Mixed deoxyribe 344:565-567 (1990)	o- and ribo-oligonucleotic	des with catalytic activity' Nature
	A177	Pieken et al. "Kinetic characteriz		sistant 2'-modified hammerhead
		ribozymes," Science 253:14-317		
\\	A178			zyme-B ₁₂)-repressed translational Mol. Microbiol. 39:1585-1594 (2001)

3	12-17-06
EXAMINER: Initial if reference considered, whether or no	t citation is in conformance with MPEP 609; Draw line through citation if not in
conformance and not considered. Include copy of this form w	ith next communication to applicant.

Date Considered:

Examiner Signature:

Complete if Known Application Number 10/669,162 Information Disclosure Filing Date September 22, 2003 Statement List First Named Inventor Breaker et al. (Use as many sheets as necessary) Confirmation No: 4368 **Examiner Name** Unassigned A179 Richardson and Schepartz, "Tethered oligonucleotide probes. A strategy for the recognition of structured RNA," J. Am. Chem. Soc. 113:5109-5111 (1991) Richardson, "Rho-dependent termination and ATPases in transcript termination." Biochim Biophys Acta. 2002 Sep 13;1577(2):251-260 A181 Rossi et al., "Molecular Biology: ribozymes in the nucleolus" Science 285:1685 (1999) A182 Roth and Breaker, "An amino acid as a cofactor for a catalytic polynucleotide" PNAS 95:6027-6031 (1998) A183 Roychowdhury-Saha, et al., "Flavin recognition by an RNA aptamer targeted toward FAD." Biochemistry, 2002 Feb 26;41(8):2492-2499 A184 Ruffner et al. "Sequence requirements of the hammerhead RNA self-cleavage reaction." Biochemistry 29:10695-10702 (1990) Sarver et al "Ribozymes as potential anti-HIV-1 therapeutic agents" Science 247:1222-1225 A185 (1990)A186 Scanion et al "Ribozyme-mediated cleavge of c-fos mRNA reduces gene expression of DNA synthesis enzymes and metallothonien" Proc. Natl. Acad. Sci. 88:10591-10595 (1991) A187 Scaringe et al "Chemical synthesis of biologically active oligoribonucleotides using betacyanethyl protected ribonucleoside phosphramidites." Nucleics Acids Res. 18:5433-5441 (1990) A188 Seela and Kaiser "Oligodeoxyribonucleotides containing 1,3 propanediol as nucleoside substitute" Nuc. Acids. Res. 15:3113-3129 (1987) A189 Seetharaman et al., "Immobilized riboswitches for the analysis of complex chemical and biological mixtures." Nature Biotechnol. 19:336-341 (2001) A190 Shabarova et al "Chemical ligation of DNA: the first non-enzymatic assembly of a biologically active gene," Nucleic Acids. Res. 19:4247-4251 (1991) A191 Shu and Guo, "A viral RNA that binds ATP and contains a motif similar to an ATP-binding aptamer from SELEX." J Biol Chem. 2003 Feb 28;278(9):7119-7125 A192 Soukup & Breaker, "Engineering precision RNA molecular switches". Proc. Natl. Acad. Sci. USA 96:3584-3589 (1999) A193 Soukup and Breaker "Nucleic Acid Molecular Switches." Trends Biotechnol. (1999) 17:469-476 Soukup and Breaker "Relationship between internucleotide linkage geometry and the stability of A194 RNA" RNA 5:1308-1325 (1999) A195 Soukup and Breaker, "Allosteric nucleic acid catalysts." Curr. Opin. Struct. Biol. 10:318-325 (2000)A196 Soukup et al., "Generating new ligand-binding RNAs by affinity maturation and disintegration of allosteric ribozymes." RNA 7, 524-536 (2001 A197 Stormo and Ji, "Do mRNAs act as direct sensors of small molecules to control their expression?" Proc Natl Acad Sci U S A. 2001 Aug 14;98(17):9465-9467 A198 Stulke, "Control of transcription termination in bacteria by RNA-binding proteins that modulate RNA structures." Arch Microbiol. 2002 Jun;177(6):433-440 Sudarsan, et al., "Metabolite-binding RNA domains are present in the genes of eukaryotes." A199 RNA. 2003 Jun;9(6):644-647 Sugiyama et al. "Catalytic activities of hammerhead ribozymes with a triterpenoid linker instead A200 of stem/loop II" FEBS Letters 392:215-219 (1996)

Examiner Signature: 2	Date Considered:	
2 d Q	1.2-17-06	
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in		
conformance and not considered. Include copy of this form with next communication to applicant.		

11-17-06

Complete if Known Application Number 10/669,162 Information Disclosure Filing Date September 22, 2003 Statement List Breaker et al. First Named Inventor (Use as many sheets as necessary) Confirmation No: 4368 **Examiner Name** Unassigned Sullenger and Cech "Tethering ribozymes to a retroviral packaging signal for destruction of viral A201 RNA" Science 262:1566-1569 (1993) A202 Switzer, et al., "Regulation of the Bacillus subtilis pyrimidine biosynthetic operon by transcriptional attenuation: control of gene expression by an mRNA-binding protein." Prog Nucleic Acid Res Mol Biol. (1999)62:329-367 Szostak and Elington "Ch. 20-In vitro selection of functional RNA sequences," In RNA world ed. A203 Geterland and Atkins, Cold Spring Harbor Laboratory Press pp. 511-533 (1993) A204 Szostak, "in vitro genetics" TIBS 17:89-93 (1992) A210 Taira et al. "construction of a novel RNA-transcript-trimming plasmid which can be used both in vitro in place of run-off and (G) free transcriptions and in vivo as multi sequences transcription vectors" Nucleic Acid. Res. 19:5125-5130 (1991) A206 Tamm et al., "Anit sense therapy in oncology: new hope for an old idea?" The Lancet 2001, Aug. 358:489-497 A207 Tang and Breaker "Examination of the catalytic fitness of the hammerhead ribozyme by in vitro selection" RNA 3:914-925 (1997) A208 Thompson et al "Improved accumulation and activity of ribozymes expressed from a tRNAbased RNA polymerase III promoter" Nucl. Acids Res. 23:2259-2269 (1995) A209 Thomson et al "In vitro selection of hammerhead ribozymes containing a bulged nucleotide in stem II" Nuc. Acid. Res. 24:4401-4406 (1996) Turner et al "Free energy increments for hydrogen bonds in nucleic acid base pairs" J. Am. A211 Chem. Soc 109:3783-3785 (1987) A212 Turner et al "Improved parameters for prediction of RNA structure" Cold Spring Harbor Symposia on Quantitative Biology vol LII pp. 123-133 (1987) Usher, "On the mechanism of ribonuclease action." Proc. Natl. Acad. USA 62:661-667 (1969) A214 Usman and Cedergren "Exploiting the chemical synthesis of RNA" TIBS 17:334-339 (1992) A215 Usman and McSwiggen "Ch 30-Catalytic RNA (ribozymes) as drugs" annual reports in medicinal Chem. 30:285-294 (1995) A216 Usman et al "Chemical modification of hammerhead riboyzmes:activity and nuclease resistance" Nucleic Acids Symposium Series 31:163-164 (1994) A217 Usman et al. "Automated chemical synthesis of long oligoribonucleotides using 2'O-silylated ribonucleoside 3'-O-phosphoraidites on a controlled pore glass support: synthesis of a 43nucleotide sequence similar to the 3'half molecule of an Escherichia coli formylmethoionine tRNA" J. Am. Chem. Soc. 109:7845-7854 (1987) A218 Vaish et al "In vitro selection of a purine nucleotide-specific hammerhead-like ribozyme" Proc. Natl. Acad. Sci. 95:2158-2162 (1998) A219 Vander Horn et al., "Structural genes for thiamine biosynthetic enzymes (thiCEFGH) in Echerichia coli K-12." J. Bacteriology 175:982-992 (1993) A220 Ventura et al "Activation of HIV-specific ribozyme activity by self-cleavage" Nuc. Acids. Res. 21:3249-3255 (1993) A221 Vold et al. "Regulation of dihydrodipicolinate synthase and aspartate kinase in Bacillus subtilis." J Bacteriol. 1975 Mar;121(3):970-974 A222 Webb & Downs, "Characterization of thiL, encoding thiamin-monophosphate kinase, in Salmonella typhimurium." J. Biol. Chem. 272:15702-15707 (1997)

	3		10	• /	- 0
EXAMINER: Initial if reference of	considered, whether or not	citation is in conformance with MP	EP 609; D	raw line through	n citation if not in
conformance and not donsidered. It	nglude copy of this form wi	ith next communication to applicant			

Date Considered:

Examiner Signature:

Complete if Known Application Number 10/669.162 Information Disclosure Filing Date September 22, 2003 Statement List First Named Inventor Breaker et al. (Use as many sheets as necessary) Confirmation No: 4368 **Examiner Name** Unassigned A223 Webb et al., "Thiamine pyrophosphate (TPP) negatively regulates transcription of some thi genes of Salmonella typhimurium." J. Bacteriol. 178, 2533-2538 (1996) A224 Weerasinhe et al "Resistance to Human immodeficiency virus using type 1 (HIV-1) infection in human CD4+ lymphocyte derived cell liness conferred by using retroviral vecotsr expressing an HIV-1 RNA-specific ribozyme" J. of Virology 65:5531-5534 (1994) A225 Wei et al., "Conserved structural and regulatory regions in the Salmonella typhimurium btuB gene for the outer membrane vitamin B12 transport protein." Res Microbiol. 1992 Jun;143(5):459-466 Weng, et al., "Identification of the Bacillus subtilis pur operon repressor." Proc Natl Acad Sci U S A226 A. 1995 Aug 1;92(16):7455-7459 A227 Werner and Uhlenbeck "The effect of base mismatches in the substrate recognition helices of hammerhead ribozymes on binding and catalysis" Nucl. Acids. Res. 23:2092-2096 (1995) A228 Werstuck and Green, "Controlling gene expression in living cells through small molecule-RNA interactions," Science 282:296-298 (1998) A229 Wilson & von Hippel,. "Transcription termination at intrinsic terminators: the role of the RNA hairpin." Proc Natl Acad Sci U S A. 1995 Sep 12;92(19):8793-8797 A230 Wincott et al "A practical method for the production of RNA and ribozymes" Methods in Mol. Biology 74:59-69 (1997) A231 Wincott et al. "Synthesis, deprotection, analysis and purification of RNA and ribozymes" Nuc. Acids. Res. 23(14):2677-2684 (1995) Winkler et al. "A mRNA structure that controls gene expression by binding FMN" Proc. Natl. A232 Acad. Sci 99(25):15908-15913(2002) A233 Winkler et al. "Thiamine derivatives bind messenger RNAs directly to regulate bacterial gene expression" Nature 419:952-956 (2002) A234 Yu et al "A hairpin ribozy,e inhibits expression of diverse strains of human immunodeficiency virus type 1" Proc. Natl. Acad. Sci. 90:3640-6344 (1993) A235 Zaug et al "The tertrahymena ribozyme acts like and RNA restriction endonuclease" Nature 324:429-433 (1986) Zhou et al. "Synthesis of functional mRNA in Mammalian cells by bacteriophage T3 RNA A236 polymerase" Mol Cell. Biol. 10:4529-4537 (1990) Zuker "On finding all suboptimal foldings of an RNA molecule" Science 244:48-52 (1989)

Examiner Signature;	Date Considered:
2 an	12-17-06

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. [Include copy of this form with next communication to applicant.